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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

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Office Action Summary	Application No. 10/735,595	Applicant(s) KURZWEIL, RAYMOND C.
	Examiner DAVID DUFFY	Art Unit 3714

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
 - If no period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
 - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 04 June 2010.
- 2a) This action is FINAL. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) Claim(s) _____ is/are allowed.
- 6) Claim(s) 1-25 is/are rejected.
- 7) Claim(s) _____ is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) Notice of References Cited (PTO-892)
 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
 3) Information Disclosure Statement(s) (PTO/SB/08)
 Paper No(s)/Mail Date _____
- 4) Interview Summary (PTO-413)
 Paper No(s)/Mail Date _____
- 5) Notice of Informal Patent Application
 6) Other: _____

DETAILED ACTION

Status of Claims

1. This office action is in response to the amendment filed 06/04/2010 in which applicant amends claims 1, 2, 8 and 20-24. Claims 1-25 are pending.

Continued Examination Under 37 CFR 1.114

2. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 06/04/2010 has been entered.

Double Patenting

3. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir.

1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

4. Claims 1-25 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-26 of copending Application No. 10/734618. Although the conflicting claims are not identical, they are not patentably distinct from each other because the claims are directed to substantially the same subject matter of a remote sensing robot/mannequin and goggles for viewing the remote images.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Claim Rejections - 35 USC § 112

5. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the

art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

6. Claim 3-7, 9-11 and 13 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Claim 3 includes the limitation "a second humanoid robot, receiving, from the communications network, the motion signals from the motion sensors, the motion signals from the motion sensors causing a movement of the second robot that is correlated to a movement of the body suit." This limitation in concert with the limitations of the preceding claims makes it so the body suit receives tactile signals from a first robot and sends motion signals to the second robot. This method of operation is not disclosed in the specification, which describes one suit receiving information from and controlling the same remote robot. Claims 4-7, 9-11, and 13 inherit this deficiency by nature of their dependency.

7. Claims 24 and 25 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Claim 24 includes the limitation, "a set of goggles having a display, the set of goggles receiving and rendering on the display at least one of the first image of a virtual scene and the second image of a virtual scene". The specification as filed does not disclose the set of goggles of being capable of

showing more than one of the images. Claim 25 inherit this deficiency by nature of their dependency.

8. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

9. Claims 1, 3-13 and 24-25 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

10. Claim 1 recites the limitation "the received real-time first image" in the seventh line and "the real-time first image" in the eighth line. There is insufficient antecedent basis for these limitations in the claim.

11. Claim 3 includes the limitation "a second humanoid robot, receiving, from the communications network, the motion signals from the motion sensors, the motion signals from the motion sensors causing a movement of the second robot that is correlated to a movement of the body suit." This limitation in concert with the limitations of the preceding claims makes it so the body suit receives tactile signals from a first robot and sends motion signals to the second robot. It is unclear how the system would operate with feedback from a different robot than the suit was controlling. Claims 4-7, 9-11, and 13 inherit this deficiency by nature of their dependency.

12. Claim 9 recites the limitation "the microphone" in the third line. There is insufficient antecedent basis for this limitation in the claim.

13. Claim 12 recites the limitation "the set of goggles" in the first line. There is insufficient antecedent basis for this limitation in the claim.

14. Claim 24 recites the limitations, "overlay a virtual environment over one or more portions of the received first real-time image to form a first image of a virtual scene with the first image of the virtual scene ... and overlay a virtual environment over one or more portions of the received second real-time image to form a second image of a virtual scene with the second image of the virtual scene". It is unclear if the first and second images are being overlaid with the same virtual environment or if each has its own environment and scene. Claim 25 inherits this deficiency by nature of dependency.

15. Claim 24 recites the limitations "first motion sensors disposed over the second mannequin, the first motion sensors sending motion actuating signals over a communication network, and first motion actuators disposed over the second mannequin, the first motion actuators receiving motion sensing signals from the communication network; ... and a body suit having second motion sensors disposed over the body suit, the second motion sensors sending the motion actuating signals to the first motion actuators over the communication network, the body suit further having motion actuators disposed over the body suit, the motion actuators receiving the motion sensing signals from the first motion sensors over the communication network." It is unclear what is occurring as both the first and second motion sensors are sending the motion actuating signals and both the first and second motion actuators and the motion actuators are receiving the motion sensing signals. As best understood this would create a positive feedback loop. Examiner is interpreting the claim in light of the specification which has the suit sending control data to the mannequin and receiving

sensor data from said mannequin. Claim 25 inherits this deficiency by nature of dependency.

Claim Rejections - 35 USC § 103

16. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
17. Claims 1, 12, 14, 18, and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yee; Albert G. et al. (US 6016385 A) in view of Clapper; Edward O. et al. (US 6752720 B1).
18. In regard to claims 1 and 14, Yee discloses a first mannequin (fig 3), a first camera supported by the first mannequin for capturing a first image of a scene (5:11-13); and a first set of goggles to render a second image of a virtual scene from signals received from a communications network (4:2-5 and 5:13-17). Yee does not explicitly disclose overlaying a virtual environment over one or more portions of the real-time images to form a first image of a virtual scene.
19. In related prior art, Clapper discloses a remotely controlled robot (abstract) that receives real-time imagery from a camera mounted on the remote robot and overlays a virtual environment via a processor (3:60-10, 5:36-46 and figs 5 and 6). One of ordinary skill in the art would recognize the advantages of overlaying a virtual environment over the real-time camera images of a remote robot to provide a more interesting and entertaining system to the controller of the robot.
20. Therefore it would have been obvious to one skilled in the art at the time of the invention to have modified Yee in view of Clapper to have overlaid a virtual environment

over the images from the camera using a processor to make a more entertaining and exciting system for controlling the robot.

21. In regard to claim 12, Yee discloses the set of goggles comprises a receiver to receive the image of the virtual scene (5:31-37, the goggles inherently have a receiver to receive the data they are displaying as otherwise they would be nonfunctional).
22. In regard to claim 18, Yee discloses sending first audio signals over the communications network; the first audio signals being produced from a first microphone coupled to the first mannequin and transuding the first audio signals received from the communications network using a transducer embedded in the first set of goggles (4:51-67).
23. In regard to claim 22, Yee discloses wherein the first set of goggles comprises a display to render the first virtual scene (5:11-14).
24. Claims 2 and 15-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yee; Albert G. et al. (US 6016385 A) in view of Clapper; Edward O. et al. (US 6752720 B1) as applied to claim 1 above, and further in view of Dundon; Michael (US 7046151 B2).
25. In regard to claims 2 and 15, Yee discloses wherein the first mannequin is a first humanoid robot having tactile sensors positioned along the exterior of the first robot, the sensors sending tactile signals to a communication network and tactile actuators receiving the tactile signals from the communications network (7:49-58). Yee does not explicitly disclose the actuators being in a body suit; rather it only explicitly discloses a glove.

26. In related prior art, Dundon discloses an interactive body suit that permits users to interact over a network whereby the garment includes tactile actuators, the tactile actuators receiving tactile signals from the network (abstract). One of ordinary skill in the art would recognize the advantages of a full body suit to provide complete sensory experience to further Yee's suggestion of providing physical interactions to enable the operator to respond more naturally, more effectively, and more quickly to developing conditions at the robot site (3:15-20).

27. Therefore it would have been obvious to one skilled in the art at the time of the invention to have modified Yee in view of Dundon to have incorporated a bodysuit with actuators to provide complete sensory experience to further Yee's suggestion of providing physical interactions to enable the operator to respond more naturally, more effectively, and more quickly to developing conditions at the robot site.

28. In regard to claims 16 and 17, Yee discloses sending motion signals from motion sensors positioned throughout the surface of a human, the motion signals corresponding to movements of each sensor relative to a reference point, the motion signals being transmitted to the communications network; receiving at the first robot the motion signals, and causing movement of the robot that is correlated to a movement of the human based on the motion signals by motion actuators moving the robot (at least 4:41-50, 5:5-10, and 6:15-41).

29. Claims 3-9, 11, 13, 19, 21, and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yee; Albert G. et al. (US 6016385 A) in view of Clapper; Edward O.

et al. (US 6752720 B1) and Dundon; Michael (US 7046151 B2) as applied to claim 2 above, and further in view of Abbasi; Touraj (US 6786863 B2).

30. In regard to claims 3-8 and 19, Yee discloses the robotic system set forth above, which clearly could be duplicated to have two copies of the system each with robot to provide two total robots, but does not explicitly disclose two robots.

31. In related prior art, Abbasi teaches that remote physical contact using mechanical surrogates, i.e. robots, is desirable to expand on the notion of teleconferencing by adding a capability to engage in all types of physical contact (1:60-63) and would allow for improved medical examinations and improved human contact (1:44-57).

32. Therefore it would have been obvious to one skilled in the art at the time of the invention to have modified Yee in view of Abbasi to use the robotic surrogates of Yee in two locations with two robots in order to expand on the notion of teleconferencing and improve human contact and medical examinations.

33. In regard to claims 9, 11, and 21, Yee discloses the communications network comprises an interface having one or more channels for receiving audio signals, first video image, sending signals to the goggles and sending audio signals with the second microphone positioned within an ear canal (4:2-5, 4:51-67, and 5:13-17).

34. In regard to claim 13 and 23, Yee discloses the system of claim 6, wherein the first robot comprises a transmitter to wirelessly send or receive audio, tactile, motion signals and the video images to or from the communications network (6:1-2).

35. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yee; Albert G. et al. (US 6016385 A) in view of Clapper; Edward O. et al. (US 6752720 B1), Dundon; Michael (US 7046151 B2), and Abbasi; Touraj (US 6786863 B2) as applied to claim 7 above, and further in view of Gutierrez; Frederic J. (US 4982281 A).

36. In regard to claim 10, Yee discloses the system of claim 7 above, with cameras located approximately in the position of the face of the humanoid robot (fig 3 and 5:11-13), but does not explicitly disclose the location being in an eye socket.

37. In related prior art, Gutierrez discloses that cameras may be located in the eyes of mannequins in order to hide their appearance (abstract). One of ordinary skill in the art would recognize the advantages of hiding the cameras of Yee in the eye sockets so that it does "not intimidate people, and in fact, be an object of curiosity, functionality, and entertainment for the general public" (Yee, 5:41-49).

38. Therefore it would have been obvious to one skilled in the art at the time of the invention to have modified Yee to have placed the cameras in the eye sockets of the humanoid figure in order to hide the camera and not intimidate persons.

39. Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yee; Albert G. et al. (US 6016385 A) in view of Clapper; Edward O. et al. (US 6752720 B1) as applied to claim 18 above, and further in view of Gutierrez; Frederic J. (US 4982281 A).

40. In regard to claim 20, Yee discloses the system of claim 18 above, with cameras located approximately in the position of the face of the humanoid robot (fig 3 and 5:11-13), but does not explicitly disclose the location being in an eye socket.

41. In related prior art, Gutierrez discloses that cameras may be located in the eyes of mannequins in order to hide their appearance (abstract). One of ordinary skill in the art would recognize the advantages of hiding the cameras of Yee in the eye sockets so that it does "not intimidate people, and in fact, be an object of curiosity, functionality, and entertainment for the general public" (Yee, 5:41-49).
42. Therefore it would have been obvious to one skilled in the art at the time of the invention to have modified Yee to have placed the cameras in the eye sockets of the humanoid figure in order to hide the camera and not intimidate persons.
43. Claims 24 and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yee; Albert G. et al. (US 6016385 A) in view of Clapper; Edward O. et al. (US 6752720 B1), Dundon; Michael (US 7046151 B2), and Abbasi; Touraj (US 6786863 B2).
44. In regard to claims 24 and 25, Yee discloses a first mannequin (fig 3), that is a humanoid robot having tactile sensors and tactile actuators (7:49-58), a first camera supported by the first mannequin for capturing a first image of a scene (5:11-13); and a first set of goggles to render a second image of a virtual scene from signals received from a communications network (4:2-5 and 5:13-17). Yee does not explicitly disclose overlaying a virtual environment over one or more portions of the real-time images to form a first image of a virtual scene.
45. In related prior art, Clapper discloses a remotely controlled robot (abstract) that receives real-time imagery from a camera mounted on the remote robot and overlays a virtual environment via a processor to form an image of a virtual scene including at least

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one remaining portion of the real-time image (3:60-10, 5:36-46 and figs 5 and 6). One of ordinary skill in the art would recognize the advantages of overlaying a virtual environment over the real-time camera images of a remote robot to provide a more interesting and entertaining system to the controller of the robot.

46. Therefore it would have been obvious to one skilled in the art at the time of the invention to have modified Yee in view of Clapper to have overlaid a virtual environment over the images from the camera using a processor to make a more entertaining and exciting system for controlling the robot.

47. Yee does not explicitly disclose the first actuators and sensors being in a body suit; rather it only explicitly discloses a glove with tactile sensors and actuators (7:49-8:9).

48. In related prior art, Dundon discloses an interactive body suit that permits users to interact over a network whereby the garment includes tactile actuators, the tactile actuators receiving tactile signals from the network (abstract). One of ordinary skill in the art would recognize the advantages of a full body suit to provide complete sensory experience to further Yee's suggestion of providing physical interactions to enable the operator to respond more naturally, more effectively, and more quickly to developing conditions at the robot site (3:15-20).

49. Therefore it would have been obvious to one skilled in the art at the time of the invention to have modified Yee in view of Dundon to have incorporated a bodysuit with actuators to provide complete sensory experience to further Yee's suggestion of

providing physical interactions to enable the operator to respond more naturally, more effectively, and more quickly to developing conditions at the robot site.

50. Yee discloses the robotic system set forth above, which clearly could be duplicated to have two copies of the system each with robot to provide two total robots, but does not explicitly disclose two robots.

51. In related prior art, Abbasi teaches that remote physical contact using mechanical surrogates, i.e. robots, is desirable to expand on the notion of teleconferencing by adding a capability to engage in all types of physical contact (1:60-63) and would allow for improved medical examinations and improved human contact (1:44-57).

52. Therefore it would have been obvious to one skilled in the art at the time of the invention to have modified Yee in view of Abbasi to use the robotic surrogates of Yee in two locations with two robots in order to expand on the notion of teleconferencing and improve human contact and medical examinations.

Response to Arguments

53. Applicant's arguments filed 06/04/2010 have been fully considered but they are not persuasive.

54. Applicant argues that the double patenting rejection is improper because the claims of the copending application describe or make obvious the overlaying of one or more portions of a real-time image with a virtual environment. Examiner disagrees. In application 10/734618, claim 1 and 2 describe "morphing" a video signal with a virtual

environment to form a virtual scene just as in the instant application. The use of the word morph does not patentably distinguish between the sets of claims.

55. Applicant argues that claim 3 does not have any deficiencies. Examiner disagrees and has clarified above that the current structure of the claim has the body suit receiving signals from one robot and controlling another, which is not described in the specification in a manner that would enable one of ordinary skill in the art to make or use the invention.

56. Applicant argues that Yee and Clapper are not combinable. Examiner disagrees. Yee discloses a remotely controlled robot. Clapper explicitly teaches and suggests that it is desirable for remotely controlled robots to provide a mixed reality experience (1:20-44 and 3:10-28). Examiner fails to see how the robot of Yee would be any less entertaining to the general public if the controller were enjoying an augmented reality experience at the same time or how this would in any way "render Yee's system inoperable or malfunctioning." The user is still in control of the robot and able to pilot it around a real world environment and interact with real and virtual objects just as intended by Yee.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to DAVID DUFFY whose telephone number is (571)272-1574. The examiner can normally be reached on M-F 0830-1700.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Peter Vo can be reached on (571) 272-4690. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/D. D./
Examiner, Art Unit 3714

/Peter D. Vo/

Supervisory Patent Examiner, Art Unit 3714